

**APPENDIX B2**

**DRAFT**

**CAREFUL RELEASE PROTOCOLS FOR RELEASE WITH MINIMAL  
INJURY**

**(TO BE POSTED IN WHEELHOUSE)**

**NOAA FISHERIES  
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# **Careful Release Protocols for Sea Turtle Release with Minimal Injury**

## **Introduction**

The following sea turtle handling protocols have been prepared by NOAA Fisheries Southeast Fisheries Science Center. As specified in CFR 50 635.21(a)(3) and 50 CFR 635(c)(5)(ii), these protocols are required to be posted inside the wheelhouses of all Atlantic vessels that have pelagic longline gear onboard and have been issued, or are required to have, Federal HMS limited access permits. These protocols should be adhered to whenever an interaction with a sea turtle occurs, including a hooking or an entanglement. These protocols are intended to be used in conjunction with a separate document entitled “Requirements and Equipment Needed for the Careful Release of Sea Turtles Caught in Hook and Line Fisheries,” (NOAA Fisheries, 2003).

All U.S. pelagic longline vessels with Federal HMS permits have been required to carry on board dipnets and line clippers meeting NOAA Fisheries’ design standards, and to comply with handling and release guidelines for the handling of incidentally-caught sea turtles (65 FR 60889, October 13, 2000, and 66 FR 17370, March 30, 2001). The requirements and standards have changed, based on field testing of equipment, user feedback, and product design updates resulting from recent experiments in the Northeast distant (NED) statistical reporting area. The required equipment and protocols are intended to reduce sea turtle bycatch and promote post-release survival. The required gear in “Requirements and Equipment Needed for the Careful Release of Sea Turtles Caught in Hook and Line Fisheries,” (NOAA Fisheries, 2004) must be used in accordance with the following protocols to ensure that sea turtles are released with minimal injury.

### **1) Vessel’s Responsibilities Upon Sighting a Sea Turtle**

Captains and crews are required to scan main line as far ahead as possible during gear retrieval to sight turtles in advance and not get ahead of the main line while retrieving gear. Upon sighting a turtle, the vessel and main line reel speed will be slowed and the vessel direction will be adjusted to move toward the turtle, to minimize tension on the main line and branch line with the turtle. When the snap of the branch line is in hand, the vessel will continue to move toward the turtle as slowly as possible. If slow speed is not possible, vessel will stop with engine out of gear and turtle will be brought along side the vessel. The branch line will be retrieved slowly, keeping a gentle, consistent tension on the line. Slack will be maintained on the branch line to keep the turtle near the vessel and in the water. A laminated instruction card for sea turtle handling/release guidelines will be provided to each vessel to be prominently displayed in the wheelhouse for instant reference (66 FR 48813, September 24, 2001).

Once the turtle is brought alongside the vessel, stop and put the vessel in neutral. Do not use gaffs or other sharp objects to retrieve or control the turtle. Assess the turtle’s condition and size, and determine if it is hooked or entangled and, if hooked, the location of the hook. There are 3 possible sea turtle interactions with the fishing gear: 1) Entangled animal but not hooked, 2) Hooked animal but not entangled, and 3) Hooked and entangled animal. The vessel must be

stopped in order to respond to these interactions, and a decision must be made whether the turtle can be brought onboard safely.

It is expected that all turtles less than 3 ft in carapace length generally can be boated safely if sea conditions permit. Whenever possible, turtles should be brought onboard to make gear removal easier and safer, following the handling guidelines for turtles boated. If it is determined that the turtle cannot be brought aboard without causing further injury to the turtle, or if conditions are such that the turtle cannot be safely brought aboard, then protocols for turtles not boated will be followed. The vessel must attempt to remove all of the gear, line and hooks from the turtle whenever conditions allow. The vessel is responsible for the turtle's safety from first sighting until release, and all efforts should be made to release the turtle with minimal injury and remaining gear.

## **2) For Turtles Not Boated**

When a turtle is too large to be boated, or if conditions prevent the safe boating of smaller turtles, vessels must remove the gear while the turtle remains in the water. The turtle should be brought as close as possible but may need a short time to calm down before being brought fully alongside, where gear removal must be conducted as quickly as possible.

### **2.1 Equipment required for turtles not boated**

#### **2.1.1 Equipment to cut monofilament line**

##### **a) Long handled line clipper/cutter**

A line clipper or cutter is designed to cut high test monofilament line to assist in removing line from entangled sea turtles. It may also be used to cut the line as close as possible to the hook, minimizing remaining gear when hook removal is not possible.

##### **b) Monofilament cutters**

If the turtle is close to the vessel, hand held monofilament cutters may be used to remove line as close to the eye of the hook as possible in the event that the hook was swallowed or cannot be removed. Turtles should be released with as little line as possible remaining.

#### **2.1.2 Equipment to remove hooks**

##### **a) Long-handled dehooker for ingested hooks**

The ARC Pole Model Deep-Hooked Dehooker is a certified piece of equipment. Other items may be used if they meet design standards and are certified by NOAA Fisheries. The equipment is used to remove ingested hooks from sea turtles that cannot be boated. This device engages and secures the leader, allowing the barb to be secured within a loop without re-engaging the

hook during the removal process. For the ARC Pole Model Deep-Hooked Dehooker, the following procedures would be followed:

- 1) The leader person (person controlling the branch line) must carefully bring the animal alongside the vessel, using a tether to help control the turtle if possible. They should stay to the left of the dehooking person, maintaining a taut leader.
- 2) The dehooking person should be to the right of the leader person to capture the leader, and no one should get in between the leader and the dehooking device in case the line breaks or the hook dislodges.
- 3) There is only one correct way to place the pigtail over the branch line. The leader person must maintain leader tension. The dehooking person places the dehooker on the leader at a 90° angle with the open end of the curl facing you, and the tail end of the curl facing up. Pull until the curl of the dehooking device captures the line (like a bow and arrow), and rotate the device ¼ turn clockwise. When placed correctly, the leader will be in the center of the pigtail curl.
- 4) Slide the dehooker down the leader until it engages the shank of the hook and bottoms out. Slightly rotate the device back and forth to ensure proper engagement on the hook.
- 5) When the hook is engaged, the dehooking device must be brought together with the leader, parallel to the line. If the line is not parallel with the dehooking device, the point of the hook will have a tendency to turn out and allow for possible re-engagement after release.
- 6) Working together, the leader person and the dehooking person must communicate, keeping the line taut until the exact moment that the dehooking person disengages the hook with a short, sharp jab downward. The leader person must give a little slack when the dehooking person is jabbing downward, so timing and communication are important. After the hook is removed, the point of the hook will rotate and stop on the offset bend of the dehooker, protecting the point and preventing re-engagement of the hook.

#### **b) Long handled dehooker for external hooks**

The long-handled dehooking device may be used for dehooking in circumstances where the animal is hooked externally.

#### **“J-style” Dehooker**

Hold the leader in your left hand with tension and hold the J-style dehooker in your right hand. Place the dehooker on the leader and follow the leader down until you bottom out on the shank of hook. With tension on the leader, lower the left hand (the hand with the leader) to the 8 o'clock position, the right hand with the dehooker to the 2 o'clock position; twist the dehooker slightly and pull until the hook is dislodged. Be cautious not to allow the hook to re-engage once removed.

#### **2.1.3 Long-handled device to pull an “Inverted V” during disentanglement**

A standard commercial fishing gaff, a long-handled “J-Style” dehooker, or a standard boat hook

may be used to assist in disentanglements and to pull a “V” for dehooking entangled sea turtles, as described in the “Inverted V” dehooking technique below.

## **2.2 “Inverted V-Style” Technique**

- 1) Once at the surface, the animal may have a tendency to entangle itself more. After the first inspection, let the turtle calm down for a short period of time (in some cases up to 10 minutes) then gently draw it to the boat, using the tether when practical to control the animal.
- 2) An additional crewmember should carefully engage the monofilament leader closest to the embedded hook with a gaff or a long handled “J-style” dehooker, depending on the distance to the hook. Care should be taken to ensure that the point of the gaff does not contact the turtle. The gaff person should pull the line upward into an “inverted V” to enable engagement of the dehooking device on the line closest to the hook.
- 3) Follow steps # 3-6 above (B) to remove the hook from the turtle using the long handled dehooking device. The gaff person would serve the same function as the leader person.
- 4) After the hook is removed and secured by the dehooker, carefully remove all line with the line cutter to disentangle the animal (see Section 2.6).

## **2.3 Recommended to control turtle at side of the vessel**

### **2.3.1 Turtle Tether**

A “Turtle Tether” is recommended, but not required, to help control the animal near the side of the boat so that the possibility for injury to the crew and turtle is minimized. The tether is used to take pressure off the branch line involved with the turtle and help stabilize the animal. The end of the negatively buoyant tether line should be threaded through an eyebolt at the end of the tether, then through a second eyebolt more than halfway down the pole. A tag line threaded through the end of the tether must be attached to the vessel to ensure that the turtle cannot escape with the tether attached. Loop the stiff rope around the front flipper up to the shoulder region, tighten and cinch the rope in the cleat. Keep a firm hold of the tether pole to keep animal near the vessel to allow for dehooking and disentanglement. Use dehookers and line cutters as needed depending on the type of gear interaction as described in Sections 2.4, 2.5 and 2.6.

### **2.4 When a turtle is entangled but not hooked (2 crew / Dehooker/ Line Cutter/Gaff, boat hook, or long handled “J-style” dehooker)**

Secure the loose hook with the dehooker and carefully slide the blunt end of the line cutter under the line that you wish to remove. Pull the line cutter and the line will be captured within the recessed blade(s) of the device. The long handled “J-style” dehooker, gaff, or boat hook may be carefully used to manage the line while cutting with the line cutters. Monofilament cutters may also be useful if the turtle is close to the side of the vessel.

### **2.5 When a turtle is hooked but not entangled (at least 2 crew, Tether and Long Handled Dehooker or “J-style” Dehooker).**

The choice of dehooker will depend on the location and depth of hook. Do not ever attempt to remove hooks that have been swallowed beyond where the insertion point of the barb is visible, or when it appears that hook removal will cause further serious injury to the turtle. If the hook cannot be removed, ensure that as much line as possible is removed. The long handled dehooker for ingested hooks should be used when the hook is more deeply embedded; the long handled dehooker for external hooks should be used when the turtle is lightly hooked and hooks are easily removed using a simple pulling motion.

## **2.6 When a turtle is hooked and entangled (multiple crew /Tether/ Dehooker / Line Cutter /Gaff or long handled “J-style” dehooker)**

For turtles wrapped in line or hooked in the armpit or shoulder with the line running under, not over the turtle, the “Inverted V-Style” technique is necessary for release (See Section 2.2).

### **3) For Turtles Boated**

#### **3.1 Boating and holding the turtle**

If the turtle is small enough, and if conditions are such that it can be brought aboard the vessel safely, a crewmember will use a dip net (meeting standards specified in NMFS regulations) to carefully bring the turtle aboard. The net will be placed under the turtle, and it will be safely lifted out of the water and onto the deck. It is very important that the turtle is never pulled out the water, even partially or for a short distance, using the line. This could cause serious injury to the turtle, especially when the turtle has swallowed the hook. The turtle will then be handled per the procedures below for boated turtles. While onboard, the turtle must be kept moist and in the shade, maintaining its body temperature above 60° F, similar to catch and release water temperatures. If you encounter a turtle with a tag, note the tag number and species and report the find to the address on the tag. All gear should be removed immediately. If possible, or if the turtle appears lethargic, leave the turtle on deck from some time (an hour or more) and monitor its condition, allowing stress toxins to dissipate.

#### **3.2 Comatose turtles**

If a turtle appears to be comatose (unconscious), then you should attempt to revive it before release per 66 FR 67495, December 31, 2001. Place the turtle on its plastron (lower shell) and elevate the hindquarters several inches to permit the lungs to drain off water. A comatose but live sea turtle may, in some cases, exhibit absolutely no movement or signs of life (no muscle reflexes). In other cases, an unconscious turtle may show some evidence of eyelid or tail movement when touched. Sea turtles may take some time to revive; do not give up too quickly. Regulations allow a fisherman to keep a turtle on deck up to 24 hours without a permit for resuscitation purposes. Even turtles successfully resuscitated benefit from being held on deck as long as possible to allow toxins that built up as a result of stress to dissipate from the body. Keep the skin, and especially the eyes, moist while the turtle is on deck by either covering the

animal's body with a wet towel or by applying petroleum jelly to its skin and carapace.

A turtle that has shown no sign of life after 24 hours on deck (held in the shade, kept moist and its body temperature maintained above 60° F) may safely be considered dead. If the turtle cannot be revived before returning to port and it cannot be salvaged, it should be returned to the water, preferably in a non-fishing area. Mark the turtle (spray paint it or tag it) before returning it to the water.

### **3.3 Equipment recommended for boating large turtles**

#### **3.3.1 Hoist or lift**

A hoist or lift is recommended to bring turtles onboard that cannot be boated using a smaller dipnet. This is particularly useful when removing gear from leatherback sea turtles. The hoist is lowered into the water using a hydraulic lift and brought near the turtle. Once the lift is in the water, the turtle can be guided into the device. The hoist and turtle are raised slowly back onto the deck. The device is designed so that when onboard, the turtle is suspended above the deck on a platform of mesh netting supported by a rigid ring and contained within a webbing fence. The turtle is immobilized, facilitating safe and rapid gear removal. Once all gear has been removed, the hoist and turtle are lowered back into the water deep enough for the turtle to swim out of the frame.

### **3.4 Equipment required for boating and holding turtles onboard**

#### **3.4.1 Dipnet**

Use the dip net to bring turtles on board. If the vessel is equipped with "cut out doors," use this door to minimize the distance from the water for the turtle to be retrieved

#### **3.4.2 Tire**

The vessel is responsible for providing a standard tire to safely isolate and immobilize the animal once it is onboard. It is important to place the turtle in its normal orientation whenever possible while immobilized on the tire, unless there is a specific reason to have it temporarily resting on its back.

### **3.5 When to remove hooks**

The decision whether to remove a hook is very important and may directly affect the turtle's chances for survival. If you are unsure whether hook removal will cause further serious injury to the turtle, do not remove the hook. All externally embedded hooks should be removed. Hooks in the mouth should be removed when they are visible in part or whole, but judgment should be used in each case. If the hook is in the braincase, glottis, or otherwise deeply embedded where removal will cause more damage, do not remove the hook. The glottis is located in the middle

of the tongue (large muscular organ fixed to the floor of the mouth); and consists of the opening to the trachea and the valve to open and close the airway. Only remove hooks from the esophagus when the insertion point of the barb is clearly visible, and exercise extreme caution during hook removal. Never attempt to remove a hook that has been swallowed when the insertion point is not visible. It could cause more damage to the turtle to try and remove a hook that cannot be seen than to leave the hook in place. When a hook cannot safely be removed, monofilament cutters should be used to cut the line as close to the eye of the hook as possible. If part of the hook is visible and accessible, bolt cutters should be used to cut off and remove the visible part of the hook.

### **3.6 Equipment to remove hooks**

When dehooking is possible, several devices may be used to remove hooks depending on the depth and location. Some hooks that are lightly hooked externally may be easily removed using your hand or longnose/needlenose pliers. The following hand held devices may be used.

#### **3.6.1 Needlenose or Longnose Pliers**

Needlenose or long-nose pliers can be used to remove hooks that are deep in the animal's flesh and must be twisted during removal. They are also useful in holding PVC splice couplings in place when used as mouth openers.

#### **3.6.2 Bolt Cutters**

Bolt cutters are essential for removing hooks, as the easiest way to remove a hook may be to cut off the eye or barb so that the hook can be pushed through or backed out without causing further injury to the sea turtle. If the hook cannot be removed, bolt cutters should be used to cut off as much of the hook as possible.

#### **3.6.3 Short handled dehooker for ingested hooks**

The 17" Hand Held Bite Block Deep-Hooked Turtle ARC Dehooking Device meets the minimum design standards. It has been designed to prevent smaller sea turtles from biting down on the dehooking device during internal hook removal. The PVC bite block also reduces the damage on the sea turtle's beak if the turtle bites down.

- a) To correctly use this dehooking device you must keep the PVC bite block pulled up along the handle when engaging the leader to allow for proper leader and hook engagement
- b) Maintain leader tension and place the dehooker on the leader at a 90° angle with the open end of the curl up.
- c) Pull the dehooker towards you (like a bow and arrow) until the open end of the curl engages (captures) the leader.



d) Turn the dehooker  $\frac{1}{4}$  turn clockwise. The leader is now in the center of the pigtail. Release the bite block allowing it to fall to the bottom of the dehooker.

e) Following the leader, insert the curl and PVC end into the mouth as far as the animal will allow before it bites down.

f) Once the sea turtle bites down, the dehooker will still slide up to 5" in and out.

g) With the sliding motion allowed by the bite block, continue to follow the leader down to the shank of the hook.

h) After you are seated on the shank of the ingested hook, (leader tight) give a sharp jab downward with the dehooker. The hook is removed and the point of the hook will rotate and stop on the offset bend of the dehooker, protecting the point and preventing re-engagement of the hook.

i) After hook is dislodged, keeping leader tight, pull the dehooker out until it stops at the PVC bite block.

j) The bite block will cover the hook and further prevent re-engagement. Wait for the turtle to open its mouth and remove the entire dehooking device and hook.

### **3.6.4 Short-handled dehooker for external hooks**

#### **a) Short-handled "J-style" dehooker or "Flipstick"**

This dehooker is designed for use only when the hook is visible in the front of the mouth or beak (and the barb is not visible), or is external. Use of the "J-style" dehooker requires a pulling motion to be employed. Consider hook location and placement prior to use. Hold the leader in your left hand with tension and hold the "J-style" dehooker in your right hand. Place the dehooker on the leader and follow the leader down until you bottom out on the shank of hook. With tension on the leader, lower the left hand (the hand with the leader) to the 8 o'clock position, the right hand with the dehooker to the 2 o'clock position; twist the dehooker slightly and pull until the hook is dislodged. Be cautious not to allow the hook to re-engage once removed.

#### **b) Scotty's dehooker**

This dehooker is designed for use only when the hook is visible in the front of the mouth or beak (and the barb is not visible), or is external. Use of the Scotty's dehooker requires a pushing motion to be employed. Consider hook location and placement prior to use. Hold the leader in your left hand with tension. Hold the Scotty's dehooker in your right hand. Position the dehooker to where it is firmly seated against the shank of the hook. Bring both hands together (leader and dehooker parallel with each other) while maintaining tension on the leader. With the leader and dehooker together, give a short, sharp jab to dislodge the hook and remove it from the animal. Be cautious not to allow the hook to re-engage once removed.

### **3.7 Equipment to cut monofilament line (See 2.1.1b above)**

### **3.8 Opening the mouth**

When a turtle with an internal hook injury is brought on board, it will more than likely have its mouth open. If the animal is not voluntarily opening its mouth, there are a few mouth opening techniques you can apply:

- 1 Block the turtle's nostrils to make the turtle breath through its mouth.
2. Tickle the throat or pull outward on the throat skin.
3. Cover the nostrils and apply light pressure to the anterior corner of the eye socket (not the eye itself) with one hand and apply firm pressure in the throat area with your other hand.

### **3.9 Equipment to open and gag mouth during internal hook removal**

If you still cannot open the mouth, use the ropes or the avian speculum as mouth openers. The mouth openers will enable you to open the turtle's mouth, and the mouth gags will maintain your access inside a turtle's mouth so you can remove any hooks and/or line. Keep in mind that different mouth openers will block your view inside the mouth in various ways. Therefore, select which mouth opener will best suit the dehooking or disentanglement procedure that you need to perform. You can improve your visibility at the back of the turtle's mouth and upper esophagus by using the needlenose pliers. After securing the mouth open, gently slide the pliers in the closed position forward into the "throat" and separate the pliers' jaws to open the "throat".

#### **3.9.1 A block of hard wood**

Soak the wooden handle first to soften it to decrease the damage to the beak. Position the brush wood handle in the posterior corner of the jaw to keep the mouth open.

#### **3.9.2 A set of Canine Mouth Gags**

This type of gag locks into the open position and allows for hands free operation once it is in place. The canine mouth gag's arms are compressible when they are perpendicular to the main axis. The rubber feet on the gag lock nicely into the groove on the upper and lower beak. When the turtle bites down on the extremity of the arms, they will rotate from being perpendicular and therefore will lock. Use the smallest one possible that will not crush. Compress the gag and insert it in the turtle's mouth. When the turtle opens its mouth, the gag will expand. Maintain your hold on the gag until it has locked in place. Do not force the turtle's mouth open all the way; let the spring tension on the gag and turtle's own mouth movement set the maximum open position. Position the mouth gag at the front center of the jaw with the axis off to one side to provide the maximum open working area in the mouth and the surest footing for the gag.

#### **3.9.3 A set of nylon dog chew bones**

Position the proper size dog bone in the posterior corner of the jaw to keep the mouth open. The larger bones are easy to hold, but block access to much of the mouth. Smaller bones don't reduce your view inside a turtle's mouth and work equally well.

#### **3.9.4 Two loops of rope with protective tubing**

Slide the rope with the protected tubing in between the jaws and move it until at the back of the mouth. Care should be taken to avoid contact with the eyes. With the free ends of the rope knotted together to form a loop, you can hold one rope loop with your foot and the other with one hand, leaving one free hand.

#### **3.9.5 A hank of rope**

Position the lanyard in the posterior corner of the jaw to keep the mouth open. Alternatively, you can place the rope across the entire width of the mouth and block both sides of the jaw.

#### **3.9.6 A set of PVC splice couplings**

Insert the appropriate size PVC splice coupling inside the turtle's mouth. Hold the pipe steady with a pair of pliers to stabilize it inside the mouth. In order to prevent the pipe from interfering with the dehooking devices, thread the line through the pipe before inserting it.

#### **3.9.7 Large avian oral speculum**

Slide the avian speculum flat inside the turtle's mouth and rotate it. Notice that the speculum is stepped and can be used for different sized turtles by selecting for its different widths. This mouth opener can be used only on the smallest of the animals.

#### **3.10 Releasing the turtle**

Once gear is removed and the turtle recovered, boated turtles should be returned to the water over the aft portion of the vessel, preferably in a non-fishing area, when gear is not in use. Release the turtle by lowering it close to the water's surface when engines are in neutral in waters of similar temperature as at capture. Their behaviors and swimming and diving abilities should be monitored after release and recorded in the daily logbook.